

### **REMARKS**

By this amendment, claims 1 and 13 have been amended, new claims 25-27 have been added, and previously withdrawn claim 24 has been canceled without prejudice or disclaimer. Accordingly, claims 1, 8, 10-13, 16, 18-19, and 25-27 are currently pending in the application, of which claims 1, 13, and 25 are independent claims.

Applicants respectfully submit that the above amendments do not add new matter to the application and are fully supported by the specification. Support for the amendments and added claims may be found at least in Figures 4-5 and at page 9, lines 11-16 of the specification.

In view of the above amendments and the following Remarks, Applicants respectfully request reconsideration and timely withdrawal of the pending rejections for the reasons discussed below.

#### ***Rejections Under 35 U.S.C. § 112, second paragraph***

Claims 1, 8, 10-13, and 18-19 stand rejected under 35 U.S.C. § 112, second paragraph as being indefinite.

Claims 1 and 13 have been amended for clarification. Claims 1 and 13 include alternative expressions, which are permissible under MPEP § 2173.01. Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. § 112, second paragraph rejection of claims 1, 8, 10-13, and 18-19.

#### ***Rejections Under 35 U.S.C. § 103***

Claims 1, 8, 10-13, and 18-19 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over U.S. Patent Application Publication No. 2003/0059647 applied for by Thompson, *et al.* ("Thompson") in view of U.S. Patent Application Publication No. 2001/0015432 applied for by Igarashi ("Igarashi").

To establish an obviousness rejection under 35 U.S.C. § 103(a), four factual inquiries must be examined. The four factual inquiries include (a) determining the scope and contents of the prior art; (b) ascertaining the differences between the prior art and the claims in issue; (c) resolving the level of ordinary skill in the pertinent art; and (d) evaluating evidence of secondary consideration. *Graham v. John Deere*, 383 U.S. 1, 17-18 (1966). In view of these four factors, the analysis supporting a rejection under 35 U.S.C. 103(a) should be made explicit, and should "identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements" in the manner claimed. *KSR Int'l. Co. v. Teleflex, Inc.*, 550 U.S. \_\_, slip op. at 14-15 (2007). Furthermore, even if the prior art may be combined, the combination must disclose or suggest all of the claim limitations. *See in re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Applicant respectfully submits that the rejections of record must be withdrawn because the Office Action fails to establish a *prima facie* case of obviousness. "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985). Here, the Office Action fails to provide a persuasive reason to modify Thompson in view of Igarashi in order to cure the deficiencies of Thompson.

In providing a reason to modify Thompson with Igarashi, the Office Action concludes, that "it would have been obvious to one having ordinary skill in the art at the time the invention was made ...to allow for a known material to properly block electrons" (page 5). A statement that modifications of the prior art to meet the claimed invention would have been "well within the ordinary skill of the art at the time the claimed invention was made" because the references relied upon teach that all aspects of the claimed invention were individually known in the art is

not sufficient to establish a *prima facie* case of obviousness without some objective reason to combine the teachings of the references. *Ex parte Levengood*, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993). Even if "Thompson's EBL would perform equally well when comprising phenylenediamine" as the Office Action states, there is no reason for one of skill in the art to use the compound of Igarashi instead of the compounds used by Thompson. Neither Thompson nor Igarashi gives a reason to modify the device of Thompson with the compound of Igarashi. Further, the Office Action states that "material availability and manufacturing processes with sensitive requirements" are additional reasons to combine the teachings of Thompson and Igarashi. However, there is no support that the compound of Igarashi provides these benefits over the compounds of Thompson.

Moreover, the Office Action inappropriately relies upon Applicants' disclosure in paragraph [0029] to support the obviousness rejection. Specifically, the Office Action states that "[i]t appears that any known material can be used in Applicant's invention, since Applicant has not adequately disclosed any testing or analytical data which establishes criticality for using phenylenediamine, or recites any specific advantage the invention benefits from over the prior art from this modification" (page 5). However, Applicants are not required to disclose testing, analytical data, or "any specific advantage the invention benefits from over the prior art from this modification." Thus, it is inappropriate to draw any conclusions from their absence.

In addition, even if combined the combined prior art elements do not disclose or suggest every claimed feature.

Claims 10 and 18 recite, *inter alia*:

wherein the hole barrier layer comprises at least one compound selected from a group consisting of oxadiazole derivatives, oxazole derivatives, triazole derivatives and quinoxaline derivatives and/or at least one compound selected from a group consisting of naphthalene carboxylic acid imide derivatives, naphthalene dicarboxylic acid diimide derivatives and wide-bandgap inorganic semiconductors

Regarding claims 10 and 18, Office Action points to paragraphs 0095 and 0102 of Thompson. Although Thompson discloses some of the above compounds (paragraph 0095), these compounds are used in the electron transport layer, not in the hole barrier layer. Further, Thompson discloses hole blocking layers (paragraphs 0102, 0109, and 0111-0126), but does not teach the compounds of claims 10 and 18. Igarashi fails to cure the deficiencies of Thompson regarding claims 10 and 18. Therefore, Thompson in view of Igarashi fails to teach or suggest each and every feature of claims 10 and 18.

Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. § 103(a) rejection of claims 1 and 13. Claims 8 and 10-12 depend from claim 1 and are allowable for at least this reason. Claims 16 and 18-19 depend from claim 13 and are allowable for at least this reason. Since none of the other prior art of record discloses or suggests all the features of the claimed invention, Applicants respectfully submit that independent claims 1 and 13, and all the claims that depend therefrom, are allowable.

#### ***Added Claims***

Added claims 25-27 are directed to additional features of the invention, which are not disclosed or suggested in the art of record.

**CONCLUSION**

Applicants believe that a full and complete response has been made to the pending Office Action and respectfully submit that all of the stated grounds for rejection have been overcome or rendered moot. Accordingly, Applicants respectfully submit that all pending claims are allowable and that the application is in condition for allowance.

Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicants' undersigned representative at the number below to expedite prosecution.

Prompt and favorable consideration of this Reply is respectfully requested.

Respectfully submitted,

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